

Amendments to the Specification

At pg. 57, lines 32-34:

allelic location: nt 1735-1757 of A3
designation: SGD009.AIVS3.R2NP
sequence: CATGTGGCCATCTTGAGAATGGA (SEQ ID NO:30)

At pg. 58, lines 1-15

allelic location: nt 1541-1564 of A2
designation: SGD006.AIVS3.R1NP
sequence: GCCCGGGAGATCTACAGGCGATCA (SEQ ID NO:31)
allelic location: nt 1533-1553 of A2
designation: A2.1
sequence: CGCCTCCCTGATCGCCTGTAG (SEQ ID NO:32)
allelic location: nt 1667-1685 of A2
designation: A2.2
sequence: CCAGAGAGTGACTCTGAGG (SEQ ID NO:33)
allelic location: nt 1704-1717 of A2
designation: A2.3
sequence: CACAATTAAGGGAT (SEQ ID NO:34)

At pg. 58, lines 18-32

allelic location: nt 1108-1131 of B17
designation: SGD007.BIVS3.R1NP
sequence: TCCCCGGCGACCTATAGGAGATGG (SEQ ID NO:35)
allelic location: nt 1582-1604 of B17
designation: SGD010.BIVS3.R2NP
sequence: CTAGGACCACCCATGTGACCAGC (SEQ ID NO:36)
allelic location: nt 500-528 of B27
designation: B2.1
sequence: ATCTCCTCAGACGCCGAGATGCGTCAC (SEQ ID NO:37)
allelic location: nt 545-566 of B27
designation: B2.2

sequence: CTCCTGCTGCTCTGGGGGGCAG (SEQ ID NO:38)

At pg. 59, lines 1-15

allelic location: nt 1852-1876 of B27

designation: B2.3

sequence: ACTTTACCTCCACTCAGATCAGGAG (SEQ ID NO:39)

allelic location: nt 1945-1976 of B27

designation: B2.4

sequence: CGTCCAGGCTGGTGTCTGGGTTCTGTGCCCCT (SEQ ID NO:40)

allelic location: nt 2009-2031 of B27

designation: B2.5

sequence: CTGGTCACATGGGTGGTCCTAGG (SEQ ID NO:41)

allelic location: nt 2054-2079 of B27

designation: B2.6

sequence: CGCCTGAATTTTCTGACTCTTCCCAT (SEQ ID NO:42)

At pg. 59, lines 18-32

allelic location: nt 1182-1204 of C3

designation: SDG008.CIVS3.R1NP

sequence: ATCCCGGGAGATCTACAGGAGATG (SEQ ID NO:43)

allelic location: nt 1655-1687 of C3

designation: SGD011.CIVS3.R2NP

sequence: AACAGCGCCCATGTGACCATCCT (SEQ ID NO:44)

allelic location: nt 499-525 of C1

designation: C2.1

sequence: CTGGGGAGGCGCCGCGTTGAGGATTCT (SEQ ID NO:45)

allelic location: nt 642-674 of C1

designation: C2.2

sequence: CGTCTCCGCAGTCCCGGTTCTAAAGTTCCAGT (SEQ ID NO:46)

At pg. 60, lines 1-19

allelic location: nt 738-755 of C1

designation: C2.3

sequence: ATCCTCGTGCTCTCGGGA (SEQ ID NO:47)

allelic location: nt 1970-1987 of C1
 designation: C2.4
 sequence: TGTGGTCAGGCTGCTGAC (SEQ ID NO:48)
 allelic location: nt 2032-2051 of C1
 designation: C2.5
 sequence: AAGGTTTGATTCCAGCTT (SEQ ID NO:49)
 allelic location: nt 2180-2217 of C1
 designation: C2.6
 sequence: CCCCTTCCCCACCCCAGGTGTTCTGTCCATTCTTCAGGA (SEQ ID NO:50)
 allelic location: nt 2222-2245 of C1
 designation: C2.7
 sequence: CACATGGGCGCTGTTGGAGTGTCG (SEQ ID NO:51)

At pg. 60, lines 22-32

allelic location: nt 599-620 of A2
 designation: SGD005.IIVS1.LNP
 sequence: GTGAGTGCGGGGTCGGGAGGGA (SEQ ID NO:52)
 allelic location: nt 489-506 of A2
 designation: 1.1
 sequence: CACCCACCGGGACTCAGA (SEQ ID NO:53)
 allelic location: nt 574-595 of A2
 designation: 1.2
 sequence: TGGCCCTGACCCAGACCTGGGC (SEQ ID NO:54)

At pg. 61, lines 1-11

allelic location: nt 691-711 of A2
 designation: 1.3
 sequence: GAGGGTCGGGCGGGTCTCAGC (SEQ ID NO:55)
 allelic location: nt 1816-1831 of A2
 designation: 1.4
 sequence: CTCTCAGGCCTTGTTTC (SEQ ID NO:56)
 allelic location: nt 1980-1923 of A2

designation: 1.5
sequence: CAGAAGTCGCTGTTCC (SEQ ID NO:57)

At pg. 61, lines 14-32

allelic location: nt 23-41 of DQA3
designation: SGD001.DQA1.LNP
sequence: TTCTGAGCCAGTCCTGAGA (SEQ ID NO:58)
allelic location: nt 45-64 of DQA3
designation: DQA3 E1a
sequence: TTGCCCTGACCACCGTGATG (SEQ ID NO:59)
allelic location: nt 444-463 of DQA3
designation: DQA3 E1b
sequence: CTCCTGCTTGTCATCTTCA (SEQ ID NO:60)
allelic location: nt 536-553 of DQA3
designation: DQA3 E1c
sequence: CCATGAATTTGATGGAGA (SEQ ID NO:61)
allelic location: nt 705-723 of DQA3
designation: DQA3 E1d
sequence: ACCGCTGCTACCAATGGTA (SEQ ID NO:62)

At pg. 62, lines 1-3

allelic location: nt 789-806 of DQA3
designation: SGD003.DQA1.RNP
sequence: CCAAGAGGTCCCCAGATC (SEQ ID NO:63)

At pg. 62, lines 6-20

allelic location: nt 49-68 of DRA HUMMHDRAM (1183 nt sequence, Accession No. K01171)
designation: DRA E1
sequence: TCATCATAGCTGTGCTGATG (SEQ ID NO:64)
allelic location: nt 98-118 of DRA HUMMHDRAM (1183 nt sequence, Accession No. K01171)
designation: DRA 5'E2 (5' indicates the primer is used as the 5' primer)
sequence: AGAACATGTGATCATCCAGGC (SEQ ID NO:65)

allelic location: nt 319-341 of DRA HUMMHDRAM (1183 nt sequence, Accession No. K01171)

designation: DRA 3'E2

sequence: CCAACTATACTCCGATCACCAAT (SEQ ID NO:66)

At pg. 62, lines 22-31

allelic location: nt 79-101 of DRB HUMMHDRC (1153 nt sequence, Accession No. K01171)

designation: DRB E1

sequence: TGACAGTGACACTGATGGTGCTG (SEQ ID NO:67)

allelic location: nt 123-143 of DRB HUMMHDRC (1153 nt sequence, Accession No. K01171)

designation: DRB 5'E2

sequence: GGGGACACCCGACCACGTTTC (SEQ ID NO:68)

At pg 63, lines 1-4

allelic location: nt 357-378 of DRB HUMMHDRC (1153 nt sequence, Accession No. K01171)

designation: DRB 3'E2

sequence: TGCAGACACAACACTACGGGGTTG (SEQ ID NO:69)

At pg. 63, lines 7-29

allelic location: nt 509-532 DQB1 DQw1_{va}

designation: DQB E1

sequence: TGGCTGAGGGCAGAGACTCTCCC (SEQ ID NO:70)

allelic location: nt 628-647 of DQB1 DQw1_{va}

designation: DQB 5'E2

sequence: TGCTACTTCACCAACGGGAC (SEQ ID NO:71)

allelic location: nt 816-834 of DQB1 DQw1_{va}

designation: DQB 3'E2

sequence: GGTGTGCACACACAACACTAC (SEQ ID NO:72)

allelic location: nt 124-152 of DQB1 DQw1_{va}

designation: DQB 5'TVS1a

sequence: AGGTATTTTACCCAGGGACCAAGAGAT (SEQ ID NO:73)

allelic location: nt 314-340 of DQB1 DQw1_{va}
designation: DQB 5'TVS1b
sequence: ATGTAAAATCAGCCCGACTGCCTCTTC (SEQ ID NO:74)
allelic location: nt 1140-1166 of DQB1 DQw1_{va}
designation: DQB 3'TVS2
sequence: GCCTCGTGCCTTATGCGTTTGCCTCCT (SEQ ID NO:75)

At pg. 63, lines 32-34

allelic location: nt 6116-6136 of DPB1 4.1
designation: DPB E1
sequence: TGAGGTTAATAAACTGGAGAA (SEQ ID NO:76)

At pg. 64, lines 1-7

allelic location: nt 7604-7624 of DPB 4.1
designation: DPB 5' IVS1
sequence: GAGAGTGGCGCCTCCGCTCAT (SEQ ID NO:77)
allelic location: nt 7910-7929 of DPB1 4.1
designation: DPB 3' IVS2
sequence: GAGTGAGGGCTTTGGGCCGG (SEQ ID NO:78)

At pg. 83, lines 16-17

SGD 001 -- 5' TTCTGAGCCAGTCCTGAGA 3' (SEQ ID NO:58); and
SGD 003 -- 5' GATCTGGGGACCTCTTGG 3' (SEQ ID NO:79).

At pg. 89, lines 7-8

0102 5' TTGCTGAACTCAGGCCACC 3' (SEQ ID NO:80)
0301 5' TGCGGAACAGAGGCAACTG 3' (SEQ ID NO:81)

At pg. 89, lines 27-29

5' CAG AGG TCG CCT CTG GA 3' (SEQ ID NO:82);
5' AAG GCC AGC GTT GTC TCC A 3' (SEQ ID NO:83); and
3' CCT CAA AAT TGG TCT GGT 5' (SEQ ID NO:84).

At pg. 90, lines 17-22

Bovine Primers (Class I HLA homolog)	T _m
5' primer: 5' TCC TGG TCC TGA CCG AGA 3' <u>(SEQ ID NO:85)</u>	(62°)
3' primer: 1) 3' A TGT GCC TTT GGA GGG TCT 5' <u>(SEQ ID NO:86)</u>	(62°)
(for ~600 bp product)	
2) 3' GCC AAC AT GAT CCG CAT 5' <u>(SEQ ID NO:87)</u>	(62°)
(for ~900 bp product)	

At pg. 91, lines 10-14

SGD009.AIVS3.R2NP CATGTGGCCATCTTGAGAATGGA (SEQ ID NO:30)
SGD006.AIVS3.R1NP GCCCGGGAGATCTACAGGCGATCA (SEQ ID NO:31)
A2.1 CGCCTCCCTGATCGCCTGTAG (SEQ ID NO:32)
A2.2 CCAGAGAGTGACTCTGAGG (SEQ ID NO:33)
A2.3 CACAATTAAGGGAT (SEQ ID NO:34)

At pg. 91, lines 17-24

SGD007.BIVS3.R1NP TCCCCGGCGACCTATAGGAGATGG (SEQ ID NO:35)
SGD010.BIVS3.R2NP CTAGGACCACCCATGTGACCAGC (SEQ ID NO:36)
B2.1 ATCTCCTCAGACGCCGAGATGCGTCAC (SEQ ID NO:37)
B2.2 CTCCTGCTGCTCTGGGGGGCAG (SEQ ID NO:38)
B2.3 ACTTTACCTCCACTCAGATCAGGAG (SEQ ID NO:39)
B2.4 CGTCCAGGCTGGTGTCTGGGTCTGTGCCCT (SEQ ID NO:40)
B2.5 CTGGTCACATGGGTGGTCCTAGG (SEQ ID NO:41)
B2.6 CGCCTGAATTTTCTGACTCTTCCCAT (SEQ ID NO:42)

At pg. 91, lines 27-35

SGD008.CIVS3.R1NP ATCCCCGGGAGATCTACAGGAGATG (SEQ ID NO:43)

SGD011.CIVS3.R2NP AACAGCGCCCATGTGACCATCCT (SEQ ID NO:44)

C2.1 CTGGGGAGGCGCCGCGTTGAGGATTCT (SEQ ID NO:45)

C2.2 CGTCTCCGCAGTCCCGGTTCTAAAGTTCCCAGT (SEQ ID NO:46)

C2.3 ATCCTCGTGCTCTCGGGA (SEQ ID NO:47)

C2.4 TGTGGTCAGGCTGCTGAC (SEQ ID NO:48)

C2.5 AAGGTTTGATTCCAGCTT (SEQ ID NO:49)

C2.6 CCCCTTCCCCACCCCAGGTGTTCTGTCCATTCTTCAGGA (SEQ ID NO:50)

C2.7 CACATGGGCGCTGTTGGAGTGTCG (SEQ ID NO:51)

At pg. 92, lines 2-7

SGD005.IIVS1.LNP GTGAGTGCGGGGTCGGGAGGGA (SEQ ID NO:52)

1.1 CACCCACCGGGACTCAGA (SEQ ID NO:53)

1.2 TGGCCCTGACCCAGACCTGGGC (SEQ ID NO:54)

1.3 GAGGGTCGGGCGGGTCTCAGC (SEQ ID NO:55)

1.4 CTCTCAGGCCTTGTTT (SEQ ID NO:56)

1.5 CAGAAGTCGCTGTTCC (SEQ ID NO:57)

At pg. 92, lines 10-15

SGD001.DQA1.LNP TTCTGAGCCAGTCCTGAGA (SEQ ID NO:58)

DQA3 E1a TTGCCCTGACCACCGTGATG (SEQ ID NO:59)

DQA3 E1b CTTCTGCTTGTCATCTTCA (SEQ ID NO:60)

DQA3 E1c CCATGAATTTGATGGAGA (SEQ ID NO:61)

DQA3 E1d ACCGCTGCTACCAATGGTA (SEQ ID NO:62)

SGD003.DQA1.RNP CCAAGAGGTCCCCAGATC (SEQ ID NO:63)

At pg. 92, lines 17-20

DRA E1 TCATCATAGCTGTGCTGATG (SEQ ID NO:64)

DRA 5'E2 AGAACATGTGATCATCCAGGC (SEQ ID NO:65)

DRA 3'E2 CCAACTATACTCCGATCACCAAT (SEQ ID NO:66)

At pg. 92, lines 22-24

DRB E1 TGACAGTGACACTGATGGTGCTG (SEQ ID NO:67)

DRB 5'E2 GGGGACACCCGACCACGTTTC (SEQ ID NO:68)

DRB 3'E2 TGCAGACACAACACTACGGGGTTG (SEQ ID NO:69)

At pg. 92, lines 28-33

DQB E1 TGGCTGAGGGCAGAGACTCTCCC (SEQ ID NO:70)

DQB 5'E2 TGCTACTTCACCAACGGGAC (SEQ ID NO:71)

DQB 3'E2 GGTGTGCACACACAACACTAC (SEQ ID NO:72)

DQB 5'IVS1a AGGTATTTTACCCAGGGACCAAGAGAT (SEQ ID NO:73)

DQB 5'IVS1b ATGTAAAATCAGCCCGACTGCCTCTTC (SEQ ID NO:74)

DQB 3'IVS2 GCCTCGTGCCTTATGCGTTTGCCTCCT (SEQ ID NO:75)

At pg. 92, line 36 through pg. 93, line 2

DPB E1 TGAGGTTAATAAACTGGAGAA (SEQ ID NO:76)

DPB 5'IVS1 GAGAGTGGCGCCTCCGCTCAT (SEQ ID NO:77)

DPB 3'IVS2 GAGTGAGGGCTTTGGGCCGG (SEQ ID NO:78)